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SEYFARTH SHAW 55 EAST MONROE STREET SUITE 4200 CHICAGO, IL 60603-5803			ZERVIGON, RUDY	
			ART UNIT	PAPER NUMBER
			1763	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/039,357	PARK ET AL.
	Examiner Rudy Zervigon	Art Unit 1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 19 July 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,2 and 4-26 is/are pending in the application.
 4a) Of the above claim(s) 17-20,25 and 26 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1,2,4-16 and 21-24 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 19, 2005 has been entered.

Election/Restrictions

2. Newly submitted claims 25 and 26 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

As stated in the original restriction requirement of March 31, 2003, "In this case the apparatus as claimed can be used to practice another and materially different process (MPEP 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process, for example, a thin film forming process not requiring the reaction of chemical source gasses as claimed in method claim 17", for example.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 25 and 26 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 2, 4-16, 21, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's amended claim 1 now requires a "thin film distributor". Applicant's distributor 140, all Figures, does not distribute a "thin film". Applicant's distributor 140, all Figures, can distribute gasses than are precursors to "thin films".

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 3-7, 9, 14-16, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore; Gary M. et al. (US 5,710,407 A) in view of Voll; Manfred et al (US 4,439,401 A). Moore teaches an apparatus (Figure 3C; column 11, line 51 - column 12, line 38) for forming a thin film, comprising: a reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) having a top portion (301c; Figure 3C), a sidewall portion (301; Figure 3C) and a bottom portion (not labeled; Figure 12); a gas injector (354a; Figure 3C) penetrating the top portion (301c; Figure 3C) and letting a source element pass therethrough, and a substrate heating member (307; Figure 3C) positioned in the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) – claim 1, 22 – Applicant's claim limitation of "and letting a source element pass therethrough" is a claim requirement of intended use of the pending apparatus claims. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter, 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably

distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); MPEP 2111.02).

Moore further teaches:

- i. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, further comprising a ram (304; Figure 3C) that is mounted through the bottom portion (not labeled; Figure 12) of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) to support the substrate heating member (307; Figure 3C) – as claimed by claim 2
- ii. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, wherein the substrate heating member (307; Figure 3C) is positioned at the center of the reaction space and the gas injector (354a; Figure 3C) is disposed at the center of the top portion (301c; Figure 3C) of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), as claimed by claim 7
- iii. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 8, wherein the source element includes a primary reactant element and a secondary reactant element, as claimed by claim 9 – Applicant's claim 9 requirement amounts to an intended use claim requirement of the pending apparatus claims. It is well established that apparatus claims must be structurally distinguished from the prior art (In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does." (emphasis in original) Hewlett - Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), MPEP – 2114). Further, a claim containing a "recitation

with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

- iv. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, wherein the top portion (301c; Figure 3C) of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) has a dome shape, as claimed by claim 15
- v. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, wherein the substrate heating member (307; Figure 3C) includes a heating element (307; Figure 3c; column 11, lines 51-69), as claimed by claim 16
- vi. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, wherein the sidewall portion (301; Figure 3C) of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) includes the substrate inlet/outlet (313; Figure 3C) through which a substrate transfers in and out of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), and wherein the bottom portion (301a; Figure 3C) of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) includes a gas exhaust port (309b; Figure 3C) that emits air from the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), as claimed by claim 21
- vii. An apparatus (Figure 3C; column 11, line 51 - column 12, line 38) for forming a thin film, comprising: a reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) having a top portion (301C; Figure 3C), a sidewall portion (301; Figure 3C) and a

bottom portion (301a; Figure 3C); a gas injector (354a; Figure 3C) penetrating the top portion (301C; Figure 3C) and letting a source element pass therethrough – claim 22

Moore does not teach:

- viii. a distributor including a first external surface having a cylindrical shape, a second external surface having a frustoconical shape, and a plurality of injection holes formed in the distributor and the source element is injected through the plurality of injection holes – claim 1
- ix. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, wherein the plurality of injection holes are arranged on the second external surface of the distributor, as claimed by claim 4
- x. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 4, wherein each injection hole includes a large diameter part accepting the source element and a small diameter part in which the velocity of source element increases, as claimed by claim 5
- xi. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 5, wherein the large diameter part has a large diameter rather than the small diameter part, as claimed by claim 6
- xii. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, wherein the number of and the size of the injection holes vary depending on the reaction space of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), as claimed by claim 14

xiii. a distributor connected to the gas injector (354a; Figure 3C), the distributor comprising a first external portion having a cylindrical shape, a second external portion having a frustoconical shape, and a plurality of injection holes formed in the second portion, each injection hole defining an interface to the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), wherein the source element is injected into the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38) through the plurality of injection holes – claim 22

xiv. ... and letting a source element pass therethrough; a means forming a thin film on a substrate - claim 23. Applicant's claim limitation of "and letting a source element pass therethrough" is a claim requirement of intended use of the pending apparatus claims. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter, 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); MPEP 2111.02).

xv. The apparatus of claim 23, wherein the means for forming the thin film on the substrate includes means for distributing the source element in the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), as claimed by claim 24

Voll teaches:

xvi. a fluid distributor (Figure 4) including a first external surface (2; Figure 4) having a cylindrical shape, a second external surface (surface of 3; Figure 4) having a frustoconical shape, and a plurality of injection holes (3; Figure 4) formed in the fluid distributor (Figure 4) and the source element is injected through the plurality of injection holes (3; Figure 4) – claim 1. Applicant’s amended claim 1 limitations of “thin film distributor”, and “..in a manner sufficient to allow formation of a thin film” are claim requirements of intended use of the pending apparatus claims. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter, 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); MPEP 2111.02).

xvii. the plurality of injection holes (3; Figure 4) are arranged on the second external surface (surface of 3; Figure 4) of the fluid distributor (Figure 4), as claimed by claim 4

xviii. a fluid distributor (Figure 4) connected to the gas injector (354a; Figure 3C), the fluid distributor (Figure 4) comprising a first external portion (2; Figure 4) having a cylindrical shape, a second external portion (surface of 3; Figure 4) having a frustoconical shape, and a plurality of injection holes (3; Figure 4) formed in the second portion, each injection hole defining an interface to the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), wherein the source element is injected into the reaction chamber

(Figure 3C; column 11, line 51 - column 12, line 38) through the plurality of injection holes (3; Figure 4) – claim 22

xix. equivalent means for distributing a fluid, or “source element” as claimed by claims 23 and 24. Support for this portion of claims 23 and 24 is found in section [0008], page 4. Specifically, the specification teaches “the distributor 140 is divided into a first portion 210 and a second portion 220. The first portion 210 has a cylindrical shape while the second portion 220 is shaped like a truncated cone” Page 12, section [0041]. Voll teaches an equivalent distributor (Figure 4) is divided into a first portion (to the right of the flange) and a second portion (to the left of the flange). The first portion (to the right of the flange) has a cylindrical shape while the second portion (to the left of the flange) is shaped like a truncated cone. As such, Voll teaches an equivalent apparatus that performs the function of fluid distribution. As a result, Voll’s prior art element of Figure 4 performs the identical function of fluid distribution in substantially the same way, and produces substantially the same results as the corresponding elements disclosed in the specification (MPEP 2183). Further, when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent (In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977); MPEP 2112.01).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Moore’s distributor (354b; Fig. 3C) with Voll’s distributor (Figure 4), including optimizing the size and number of Voll’s injection holes.

Motivation to replace Moore's distributor (354b; Fig. 3C) with Voll's distributor (Figure 4), including optimizing the size and number of Voll's injection holes is for reactant gas mixing as taught by Voll (column 3, lines 40-55) and for optimal flow characteristics (column 3; lines 23-31). Further, it is well established that changes in apparatus dimensions are within the level of ordinary skill in the art. (Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); See MPEP 2144.04)

7. Claims 8, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore; Gary M. et al. (US 5,710,407 A) and Voll; Manfred et al (US 4,439,401 A) in view of Suzuki; Akira et al. (US 5,522,934 A). Moore and Voll are discussed above. Moore and Voll do not teach:

- i. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 1, further comprising a plurality of distributors that are classified into a first distributor (Figure 4) at the center of the top portion (301c; Figure 3C) and a second distributor (Figure 4) around the first distributor (Figure 4) in the top portion (301c; Figure 3C) so as to inject the source element, as claimed by claim 8
- ii. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 9, wherein the primary reactant element passes through the first distributor (Figure 4) arranged at the center of the top portion (301c; Figure 3C) and the secondary reactant element passes through the second distributor (Figure 4) arranged around the first distributor (Figure 4), as claimed by claim 10

- iii. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 10, wherein an axis of the second distributor (Figure 4) forms an angle of about 90 degrees with an axis of the first distributor (Figure 4) when the first and second distributors are disposed at the top portion (301c; Figure 3C) of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), as claimed by claim 11
- iv. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 10, wherein an axis of the second distributor (Figure 4) forms an angle of less than 90 degrees with an axis of the first distributor (Figure 4) when the first and second distributors are disposed at the top portion (301c; Figure 3C) of the reaction chamber (Figure 3C; column 11, line 51 - column 12, line 38), as claimed b claim 12
- v. The apparatus (Figure 3C; column 11, line 51 - column 12, line 38) of claim 10, wherein the secondary reactant element is selected from a group consisting of ammonia, hydrazine, water vapor, oxygen and ozone, as claimed by claim 13 – Applicant's claim 13 requirement amounts to an intended use claim requirement of the pending apparatus claims. It is well established that apparatus claims must be structurally distinguished from the prior art (In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does ."(emphasis in original) Hewlett - Packard Co .
- v. Bausch & Lomb Inc ., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), MPEP – 2114). Further, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Suzuki teaches a plurality of distributors (64A inside 58A, 64B inside 58B; Figures 9,12) including:

- vi. a plurality of distributors (64A inside 58A, 64B inside 58B; Figures 9,12) that are classified into a first distributor (60; Figure 12) at the center of the top portion (54; Figure 12) and a second distributor (64A inside 58A, 64B inside 58B; Figures 9,12) around the first distributor (60; Figure 12) in the top portion (54; Figure 12) so as to inject the source element, as claimed by claim 8. Applicant's claim requirement of "to inject the source element" is a claim requirement of intended use. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter, 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); MPEP 2111.02).
- vii. wherein the primary reactant element passes through the first distributor (60; Figure 12) arranged at the center of the top portion (54; Figure 12) and the secondary reactant element passes through the second distributor (64A inside 58A, 64B inside 58B; Figures 9,12) arranged around the first distributor (60; Figure 12), as claimed by claim 10. Applicant's claim requirement of "wherein the primary reactant element" is a claim requirement of intended use. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the

scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

- viii. wherein the primary reactant element passes through the first distributor (60; Figure 12) arranged at the center of the top portion (54; Figure 12) and the secondary reactant element passes through the second distributor (64A inside 58A, 64B inside 58B; Figures 9,12) arranged around the first distributor (60; Figure 12), as claimed by claim 10. Applicant's claim requirement of "wherein the primary reactant element" is a claim requirement of intended use. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).
- ix. wherein an axis of the second distributor (64A inside 58A, 64B inside 58B; Figures 9,12) forms an angle of about 90° with an axis of the first distributor (60; Figure 12) when the

first and second distributors are disposed at the top portion (54; Figure 12) of the reaction chamber (4; Figure 12), as claimed by claim 11

- x. The apparatus of claim 10, wherein an axis of the second distributor (64A inside 58A, 64B inside 58B; Figures 9,12) forms an angle of less than 90° with an axis of the first distributor (60; Figure 12) when the first and second distributors are disposed at the top portion (54; Figure 12) of the reaction chamber (4; Figure 12), as claimed by claim 12
- xi. wherein the secondary reactant element is selected from a group consisting of ammonia, hydrazine, water vapor, oxygen and ozone, as claimed by claim 13 – Applicant's claim 13 requirement amounts to an intended use claim requirement of the pending apparatus claims. It is well established that apparatus claims must be structurally distinguished from the prior art (In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does ."(emphasis in original) Hewlett - Packard Co v. Bausch & Lomb Inc ., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), MPEP – 2114).

Further, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add plural Voll distributers to Moore's apparatus as taught by Suzuki.

Motivation to add plural Voll distributers to Moore's apparatus as taught by Suzuki is for film deposition uniformity as taught by Suzuki (column 2, lines 23-33). Further, it is well established

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that the duplication of parts is obvious (In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) MPEP 2144.04).

Response to Arguments

8. Applicant's arguments with respect to all pending claims have been considered but are moot in view of the new grounds of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272.1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (703) 872-9306. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.


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